

What is claimed is:

1. A method of making an electrode structure for use in a double layer capacitor, comprising the steps of:

forming a plurality of electrodes, each of the plurality of
5 electrodes comprising:

a current collector plate;

a primary coating formed on a portion of each side of the current collector plate, the primary coating including conducting carbon powder and a binder; and

10 a secondary coating formed on each primary coating, the secondary coating including activated carbon powder, a solvent and a binder;

positioning a respective separator between each of the plurality of electrodes while stacking the plurality of electrodes on
15 top of each other such that the respective separator is juxtaposed against respective secondary coatings of adjacent ones of the plurality of electrodes, wherein the respective separator electrically insulates the adjacent ones of the plurality of electrodes from each other, whereby forming a stack of the plurality of electrodes with a
20 respective separator positioned in between respective ones of the plurality of electrodes; and

rolling the electrode stack starting at one end of the electrode stack into a cylindrical structure.

2. The method of claim 1 further comprising electrically
25 coupling together a first set of respective ones of a portion of each current collector plate that do not have the respective primary coating formed thereon to form a first terminal.

3. The method of claim 2 further comprising electrically
30 coupling together a second set of respective ones of the portion of each current collector plate that do not have the respective primary coating formed thereon to form a second terminal.

4. The method of claim 3 further comprising inserting the rolled electrode stack into a capacitor can;

coupling the first terminal to a first capacitor terminal of the capacitor can;

5 coupling the second terminal to a second capacitor terminal of the capacitor can;

saturating the rolled electrode stack in a prescribed electrolytic solution; and;

10 sealing the rolled electrode stack and the prescribed electrolytic solution within the capacitor can.

5. The method of claim 1 wherein the positioning while stacking steps are performed such that upon rolling the electrode stack, a portion of each current collector plate that does not have a respective primary coating formed thereon extends from a respective
15 end of the rolled electrode stack..

6. The method of claim 5 wherein the positioning while stacking steps are performed such that upon rolling the electrode stack, the portion of each current collector plate that does not have the respective primary coating formed thereon extends from an opposite
20 end of the rolled electrode stack as extends the portion of each adjacent current collector in the electrode stack that does not have the respective primary coating formed thereon.

7. The method of claim 6 further comprising smearing together portions of the current collector plates extending from each end of
25 the electrode stack into electrical contact with each other.

8. The method of claim 7 further comprising applying a conductive coating to a portion of the current collector plates smeared together at each end of the electrode stack, each conductive coating adapted to be coupled to a respective capacitor terminal.

30 9. A method of making an electrode structure for use in a double layer capacitor, comprising the steps of:

a current collector plate having a length and a width and a thickness;

a primary coating formed on a portion of each side of the current collector plate, the portion covering an area extending
5 the full length of the current collector plate and extending a portion of the width of the current collector plate, the primary coating including conducting carbon powder and a binder; and

a secondary coating formed on each primary coating, the secondary coating including activated carbon powder, a
10 solvent and a binder;

positioning a respective separator between each of the plurality of electrodes while stacking the plurality of electrodes on top of each other such that the respective separator is juxtaposed against respective secondary coatings of adjacent ones of the
15 plurality of electrodes, wherein the respective separator electrically insulates the adjacent ones of the plurality of electrodes from each other, whereby forming a stack of the plurality of electrodes with a respective separator positioned in between respective ones of plurality of electrodes, the electrode stack having a stack length and
20 a stack width; and

rolling the electrode stack starting at one end of the electrode stack along the stack length into a cylindrical structure.

10. The method of claim 9 further comprising electrically coupling together a first set of respective ones of the portion of
25 each current collector plate that do not have the respective primary coating formed thereon to form a first terminal.

11. The method of claim 10 further comprising electrically coupling together a second set of respective ones of the portion of each of the plurality of electrodes that do not have the respective
30 primary coating formed thereon to form a second terminal.

12. The method of claim 9 wherein the positioning while stacking steps are performed such that upon rolling the electrode stack, a portion of each current collector plate that does not have a

respective primary coating formed thereon extends from a respective end of the rolled electrode stack.